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Our Case No. 9281-4199
Client Reference No. S US00172

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Takeo Suzuki et al.)
Serial No. To Be Assigned)
Filing Date: Herewith)
For: TV Signal Receiving Tuner Capable)
of Outputting Oscillation Signal)
Having Wide Frequency Band by)
Means of Single Local Oscillator)

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Prior to examination of the above-identified application, please amend the application as follows:

In the Claims

Please rewrite Claims 1-4, 6-16, and 18-27 as follows:

1. (Amended) A TV signal receiving tuner for receiving TV signals by dividing the TV signals into a plurality of frequency bands, comprising:
 - a local oscillator which oscillates at a frequency range corresponding to a received TV signal having a predetermined frequency band;
 - a first programmable divider which receives a local oscillation signal of the local oscillator and divides the local oscillation signal; and
 - a first mixer which mixes the received TV signal and an output of the first programmable divider and frequency converts the received TV signal into an intermediate-frequency signal having a predetermined frequency, wherein

a dividing rate of the first programmable divider is variable and set to 1 to receive a TV signal having a first frequency band and to at most 1/2 to receive a TV signal having a second frequency band, the second frequency band being lower than the first frequency band.

2. (Amended) A TV signal receiving tuner for receiving TV signals by dividing them into a plurality of frequency bands, comprising:

a local oscillator which oscillates at a frequency range corresponding to a received TV signal having a predetermined frequency band;

a second programmable divider which receives a local oscillation signal of the local oscillator and divides the local oscillation signal;

a second mixer which mixes the received TV signal and the local oscillation signal and frequency converts the received TV signal into an intermediate-frequency signal having a first frequency; and

a third mixer which mixes the received TV signal and an output of the second programmable divider and frequency converts the received TV signal into an intermediate-frequency signal having a second frequency,

wherein frequency conversion is carried out by the second mixer to receive a TV signal having a first frequency band, and

wherein frequency conversion is carried out by the third mixer to receive a TV signal having a frequency band lower than the first frequency band.

3. (Amended) The TV receiving tuner according to claim 2, wherein a dividing rate of the second programmable divider is variable and dependent upon a geographical location in which the TV receiving tuner is disposed.

4. (Amended) The TV receiving tuner according to claim 1, further comprising:

a first tracking filter to select the TV signal having the first frequency band;

a second tracking filter to select the TV signal having the second frequency band arranged in parallel to the first tracking filter; and

a PLL IC to output a tuning voltage that changes a frequency of the local oscillation signal output from the local oscillator,

wherein the tuning voltage is applied to the first tracking filter and the second tracking filter to tune a pass band of one of the first tracking filter and the second tracking filter to a frequency of the TV signal to be received.

6. (Amended) The TV receiving tuner according to claim 5, further comprising:

a low-noise first preamplifier having an automatic gain control (AGC) function provided after the first tracking filter; and

a low-noise second preamplifier having an AGC function provided after the second tracking filter.

7. (Amended) The TV receiving tuner according to claim 6, further comprising:

a first image trap circuit to attenuate an image frequency signal corresponding to the TV signal to be received interposed between the first preamplifier and the second mixer; and

a second image trap circuit to attenuate the image frequency signal corresponding to the TV signal to be received interposed between the second preamplifier and the third mixer.

8. (Amended) The TV receiving tuner according to claim 1, wherein the local oscillator outputs an oscillation signal having a frequency band of at least 847 to 505 MHz, and wherein the dividing rate of the first programmable divider may be set to different values including 1, $1/3$ and $1/5$.

9. (Amended) The TV receiving tuner according to claim 1, wherein the local oscillator outputs an oscillation signal having a frequency band of at least 803 to 473 MHz, and wherein the dividing rate of the first programmable divider may be set to different values including 1, $1/3$ and $1/9$.

10. (Amended) The TV receiving tuner according to claim 1, wherein the local oscillator outputs an oscillation signal having a frequency band of at least 824 to 530 MHz, and wherein the dividing rate of the first programmable divider may be set to different values including 1, $1/3$ and $1/4$.